

Subcommittee on Environment and Climate Change
Hearing on
“Promoting American Innovation and Jobs:
Legislation to Phase Down the Use of Hydrofluorocarbons”
January 14, 2020

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The Honorable Frank Pallone, Jr. (D-NJ)

1. Please provide any information or analysis the Agency has available regarding potential costs of compliance and potential costs and/or savings for consumers relating to a phase down of HFCs.

EPA RESPONSE: Any analysis of costs and benefits by EPA is still undergoing review. At this stage it would include information that is deliberative and pre-decisional, and therefore would not be appropriate to share at this time.

2. Please provide information about alternatives to HFCs, in particular the diversity of available alternatives, and a general overview of the range and types of available alternatives. Please include responses to the following related questions:
 - a. Does EPA have a list of potential alternatives, including both fluorinated and non-fluorinated?

EPA RESPONSE: Alternatives evaluated and listed as acceptable by EPA’s SNAP Program, which include the vast majority of sectors where HFCs are used, can be found on EPA’s website at: <https://www.epa.gov/snap/snap-substitutes-sector>.

- b. Under Title VI, EPA has issued allowances. Can EPA provide the list of allowance holders?

EPA RESPONSE: Below is a list of baseline allowances holders to produce and/or import HCFCs in 2019, also available at: <https://www.epa.gov/ods-phaseout/hcfc-allowance-system>

2019 Allowance Holders	Headquarters Location ¹
ABCO Refrigeration Supply	New York
AGC Chemicals	Pennsylvania

¹ Many of these companies have facilities in various locations.

Altair Partners	New Jersey
Arkema	Pennsylvania
Carrier	Connecticut
Coolgas, Inc.	Texas
Combs Investment Property	Texas
Chemours (formerly DuPont)	Delaware
H.G. Refrigeration	Florida
Honeywell	New Jersey
Kivlan & Company	Pennsylvania
MDA Manufacturing	Alabama
Mexichem Fluor Inc.	Louisiana
Monday Global	Texas
National Refrigerants	Pennsylvania
Perfect Score Too, LTD (formerly Perfect Technology Center, LP)	Texas
Refricenter of Miami	Florida
Refricentro	Puerto Rico
R-Lines	Florida
Saez Distributors	Florida
Solvay Specialty Polymers USA, LLC	New Jersey
Tulstar Products	Oklahoma
USA Refrigerants	New Jersey

c. Can EPA provide a list of reclaimers?

EPA RESPONSE: The EPA-certified refrigerant reclaimers are listed below, also available at: <https://www.epa.gov/section608/epa-certified-refrigerant-reclaimers>

Refrigerate Reclaimer	Headquarters Location ²
1 st Choice Recycling & Recovery	Arizona
A-Gas U.S. Inc. (Formerly DBA: Coolgas Inc., Diversified Pure Chem LLC., RapRec Refrigerants Inc., and RemTec International)	Ohio
Absolute Chiller Services, Inc.	California
Advanced Refrigerant Reclaimers, Inc.	Tennessee
Advanced Refrigerant Technologies, LLC	Texas
Alfa Cantor LLC	Texas
All Metal Buys Scrap	Arizona
All Seasons	North Carolina
AllCool Refrigerant Reclaim, LLC	Maryland
American Refrigerants, Inc.	Florida

² Many of these companies operate nationwide.

Arkema, Inc. Fluorochemicals, Industrial Chemicals Group	Pennsylvania
Aspen Refrigerants, Inc.	New York
Brady Trane Service, Inc.	North Carolina
C&M Ent of Christmas, FL Inc	Florida
Carolina Refrigerants, Inc.	North Carolina
Certified Refrigerant Services	Florida
Chiller City	Arizona
Chiller Services Refrigerant Recovery Reclamation LLC	California
Chill-Tek, Inc. (formerly, Refrigerant Recovery Service of Nevada)	Nevada
Clean Air Refrigerant Recovery and Reclaiming, Inc.	Georgia
Consolidated Refrigerant Solutions, Inc.	New York
Copper State Recovery	Arizona
DFW Refrigerant Services, LLC	Texas
Dow Chemical Company (Freeport, TX site)	Texas
Environment First, Inc.	Indiana
Environmental Recovery Solutions	Pennsylvania
FluoroFusion Specialty Chemicals, Inc.	North Carolina
Golden Refrigerant	Michigan
Horwitz	Minnesota
Hudson Technologies Company	New York
iCon Air & Mechanical Services	Tennessee
InSolution - KoolDuct Fabricator	Indiana
J.R.'s Appliance Disposal, Inc.	Minnesota
National Refrigerants, Inc.	Pennsylvania
Newcomb Mechanical, Inc.	California
NoVent Refrigerant Services, Inc.	Florida
Perfect Cycle Reclaim Center - Perfect Score Too, LTD	Texas
Pierce Refrigerant Management	South Carolina
Prime Refrigerant Services	Florida
Reclamation Technologies, Inc. (formerly Rapid Reclaim)	Minnesota
Refrigerant Exchange Corp.	California
Refrigerant Handling, Inc.	California
Refrigerant Products, LLC	Oklahoma
Refrigerant Recycling, Inc.	Hawaii
Refrigerant Rescue, LLC	Kentucky
Refrigerants, Inc.	Colorado
Refrigeration Salvage, Inc.	Texas

Refrigerant Solutions Inc.	Massachusetts
RMS of Georgia LLC	Georgia
RTR Suppliers	Florida
Safe Disposal Systems, Inc. - SDS Refrigerant Services	Pennsylvania
St. Vincent De Paul Society of Lane County, Inc.	Oregon
Storer Equipment Company, Inc.	Louisiana
Summit Refrigerants, LLC	Texas
Tin Man Refrigerants	Arizona
Total Reclaim, Inc.	Washington
Tradewater Refrigerant Solutions	Illinois
Trane San Antonio District	Texas
Turner & Schoel, LLC	Alabama
Valley Reclaim	Washington
Welch's Refrigeration H.V.A.C	Ohio

- d. Please provide any information EPA has available regarding the scope of availability of alternatives to HFCs, such as the number of companies manufacturing alternatives to HFCs.

EPA RESPONSE: EPA previously prepared market characterization reports on the U.S. market for certain relevant sectors:

- “Market Characterization of the U.S. Aerosols Industry, U.S. Motor Vehicle Air Conditioning Industry, U.S. Commercial Refrigeration Industry, and U.S. Foams Industry,” July 2015, available at: <https://www.regulations.gov/document?D=EPA-HQ-OAR-2014-0198-0241>
- “Market Characterization: Fire Suppression, Commercial Comfort Cooling, Cold Storage, Refrigerated Food Processing and Dispensing Equipment, and Household Refrigeration Industries in the United States,” March 2016, available at: <https://www.regulations.gov/document?D=EPA-HQ-OAR-2015-0663-0018>

EPA has also published fact sheets providing information on alternatives for a number of end-uses:

- https://www.epa.gov/sites/production/files/2015-09/documents/epa_hfc_passenger_vehicle_ac.pdf
- https://www.epa.gov/sites/production/files/2016-12/documents/international_transitioning_to_low-gwp_alternatives_in_commercial_refrigeration.pdf

- https://www.epa.gov/sites/production/files/2016-12/documents/international_transitioning_to_low-gwp_alternatives_in_res_and_com_ac_chillers.pdf
- https://www.epa.gov/sites/production/files/2016-12/documents/transitioning_to_low-gwp_alternatives_in_domestic_refrigeration.pdf

The majority of HFCs are used for refrigeration, air conditioning, and foam blowing. Below are examples of companies of which EPA is aware that manufacture alternatives and/or equipment using alternatives in those uses. This is **not** a comprehensive list:

Suppliers of Alternatives	
Fluorinated Chemical Producers	<ul style="list-style-type: none"> • 3M • AGC Chemicals • Chemours • Honeywell
Various nonfluorinated alternatives	<ul style="list-style-type: none"> • Various companies supply ammonia, carbon dioxide, hydrocarbons (e.g., propane, isobutane, cyclopentane), methyl formate, water-based technologies, and others

HFC End Uses ³	
Commercial Air Conditioning (Chillers)	<ul style="list-style-type: none"> • Carrier Corporation • Daikin Applied • Danfoss Turbocor Compressors Inc. • Ecochillers • Johnson Controls / York • Smardt • Trane Technologies
Commercial Refrigeration	<ul style="list-style-type: none"> • Danfoss • Hillphoenix (a Dover company) • Hussmann (a Panasonic company) • Thermo Fisher Scientific • True Manufacturing • Zero Zone
Foam Suppliers/Users	<ul style="list-style-type: none"> • Demilec Inc. • Foam Supplies Inc.

³ In some cases, manufacturers are using blends or HFCs with lower global warming potential which is consistent with the phasedown approach.

	<ul style="list-style-type: none"> • Fomo Products, Inc. (FLM Group of Companies) • Holland Applied Technologies • LaPolla Industries, Inc. • NCFI Polyurethanes (division of Barnhardt Manufacturing Company) • Trane Technologies 		
Household Refrigerator-Freezers	<ul style="list-style-type: none"> • Electrolux • General Electric • Samsung • Sub-Zero • Whirlpool 		
Transport Refrigeration	<ul style="list-style-type: none"> • Carrier Corporation • Infinity Transportation Logistics • Thermo King a (Trane Technologies brand) 		
0Vehicle (Car & Truck) Air Conditioning <i>Note: nearly all foreign and domestic vehicle manufacturers are using alternative refrigerants including the following makes</i>	<table> <tr> <td> <ul style="list-style-type: none"> • Acura • Alfa Romeo • Audi • BMW • Buick • Cadillac • Chevrolet • Chrysler • Dodge • Fiat • Ford • Genesis • GMC • Honda </td><td> <ul style="list-style-type: none"> • Hyundai • Jaguar • Jeep • Kia • Land Rover • Lexus • Lincoln • Mini Cooper • Mitsubishi • Ram • Subaru • Toyota • Volkswagen </td></tr> </table>	<ul style="list-style-type: none"> • Acura • Alfa Romeo • Audi • BMW • Buick • Cadillac • Chevrolet • Chrysler • Dodge • Fiat • Ford • Genesis • GMC • Honda 	<ul style="list-style-type: none"> • Hyundai • Jaguar • Jeep • Kia • Land Rover • Lexus • Lincoln • Mini Cooper • Mitsubishi • Ram • Subaru • Toyota • Volkswagen
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